# Storm Water Utility Development

- **Protecting water quality is everybody's business.**

ROCHESTER PUBLIC WORKS DEPARTMENT
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2/24/03

# Storm Water Management Plan

- Rochester's storm water management obligations are increasing due to:
  - New, federally-mandated, state-delegated NPDES Phase II permit requirements
  - Population growth

# Storm Water Management Program Goals

- Maintain and improve the chemical, physical, and biological integrity of our water resources
- Implement the storm water management program and comply with the storm water pollution prevention program of the Phase II permit
- Provide adequate and equitable financing

# NOTE: The Storm Water Management Plan and the Flood Control Project Differ

- Flood Control Project
  - Acute flooding
  - Severe storm events
- Storm Water Management Plan
  - Chronic quantity and conveyance issues
  - Water quality impacts

# Existing System - Constructed

- 280 miles of storm sewer pipe
- 4,000 storm sewer catch basins
- 2,500 storm sewer manholes
- 17 bridges and 11 box culverts
- 128 storm water ponds
- 780 lane miles of streets (these direct runoff to storm sewers and require sweeping),
- ?# outfalls and culverts (yet to be inventoried)
- ?# miles open road ditches (yet to be inventoried)
- ?# miles drainage easements (yet to be inventoried)

# Existing System - Natural

- Silver Lake
- Cascade Lake
- ~12 miles of the South Fork of the Zumbro River
- ~53 miles of tributary creeks
- ?? miles of natural ravines

# Existing Storm Water Management Activities

- Construction, inspection, and maintenance of storm sewer lines, catch basins, and ponds
- Stabilization of creeks and other drainage-ways;
- Street sweeping
- Storm water management planning
- Storm sewer and pond mapping

(con't)

# Existing Storm Water Management Activities (con't)

- Grading and drainage plan development and review
- Inspection of construction sites greater than five acres for proper erosion control
- Citizen inquiry and complaint response
- Planning and special studies
- Record keeping

# Historical Funding for Storm Water Management

- $ Property taxes
  - $ (But no SWM CIP projects in last 3 years)
- $ As part of street construction projects
- $ Developer funded on-site ponds
- $ Developer contribution to the regional pond system

# New Phase II Requirements

- Public education and participation
- Outfall mapping
- Routine pond and outfall inspections
- Routine pond and outfall maintenance
- Inspection of construction sites greater than one acre for proper erosion control
- Illicit discharge detection and elimination

(con't)

# New Phase II Requirements (con't)

- Update existing storm water ordinances,
- Develop ordinance to address illicit discharges
- Enforcement of storm water related ordinances
- Construction of water quality and quantity control structures (the largest cost factor)
- Improved materials management (more efficient use, storage, processing and disposal of materials that could enter our waterways)

# Phase II Schedule

- Application/NOI – March 10, 2003
- SWPPP – May 9, 2003

# SWMP Funding Options

- User fees
  - Service charges (utility fees)
  - Fees (plan review fees)
  - SWMP fees for regional pond construction
- Property taxes
- Bonds
- Loans
- Grants
- Etc.

# National Trends – Black & Veatch Survey

- 74% primarily use SWUFs
- 90% pay for O & M and CIP
- 70% use a class average for residential parcels
- 90% use an individual charge for non-residential parcels
- 68% bill monthly
- 67% bill property owners

# Range of Monthly Residential Charges

- National:  $0.24 to $11.31 (2000)
- State: $0.50 to $5.00 (1997)

NOTE: These comparisons don't identify what programs or activities are funded by the monthly fees.

# Advantages and Disadvantages of SWUs

+ **Stable**
+ **Self-Supporting Beneficial**
+ **Equitable**
+ **Dedicated**
+ **Sound**
+ **Self-rewarding**
+ **Visible**
+ **Retrenchment**

– **Perplexing**
– **Confusing**
– **Unfavorable**
– **Management Expense**

# Staff Recommendation

- Based on an evaluation of available options, along with state and national trends, staff recommend a storm water utility enterprise fund, primarily supported through SWUFs collected from owners of developed properties.
- Authority for the creation of a storm water utility is granted in MN Stat. 444.075.

# SWMP History

- 1990 – City Council did not endorse SWU
- 1995 – started comprehensive surface water management planning process
- 1997 – Final Surface Water Management Plan
- 1999 – Updated Storm Water Management Plan
- 1999 – Zoning Ordinance and Land Development Manual updated to incorporate SWMP by reference
- 2003 – SWMP amended to include King's Run, Hadley Valley and Northwest Territory
- 2003 – NPDES Phase II Permit begins

# Cost of Service Analysis

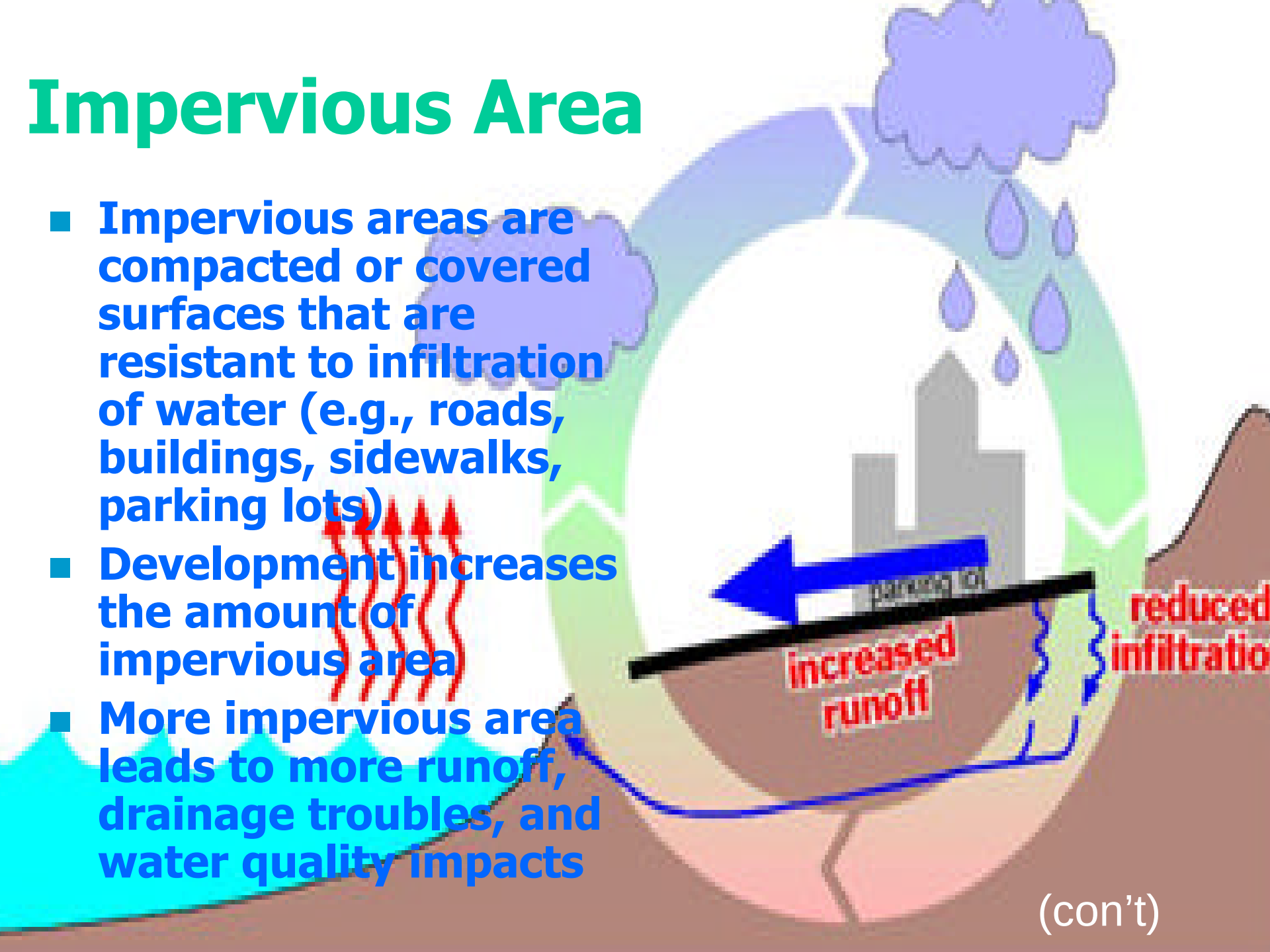
1. Measure and evaluate impervious areas and land use factors to identify each property owner's proportional contribution

2. Identify the level of service needed to implement the SWMP and comply with the Phase II permit, along with the resulting direct and indirect benefits.

3. Calculate a unit rate based on service proportion (#1) and the program budget (#2).

# Impervious Area

- Impervious areas are compacted or covered surfaces that are resistant to infiltration of water (e.g., roads, buildings, sidewalks, parking lots)
- Development increases the amount of impervious area
- More impervious area leads to more runoff, drainage troubles, and water quality impacts

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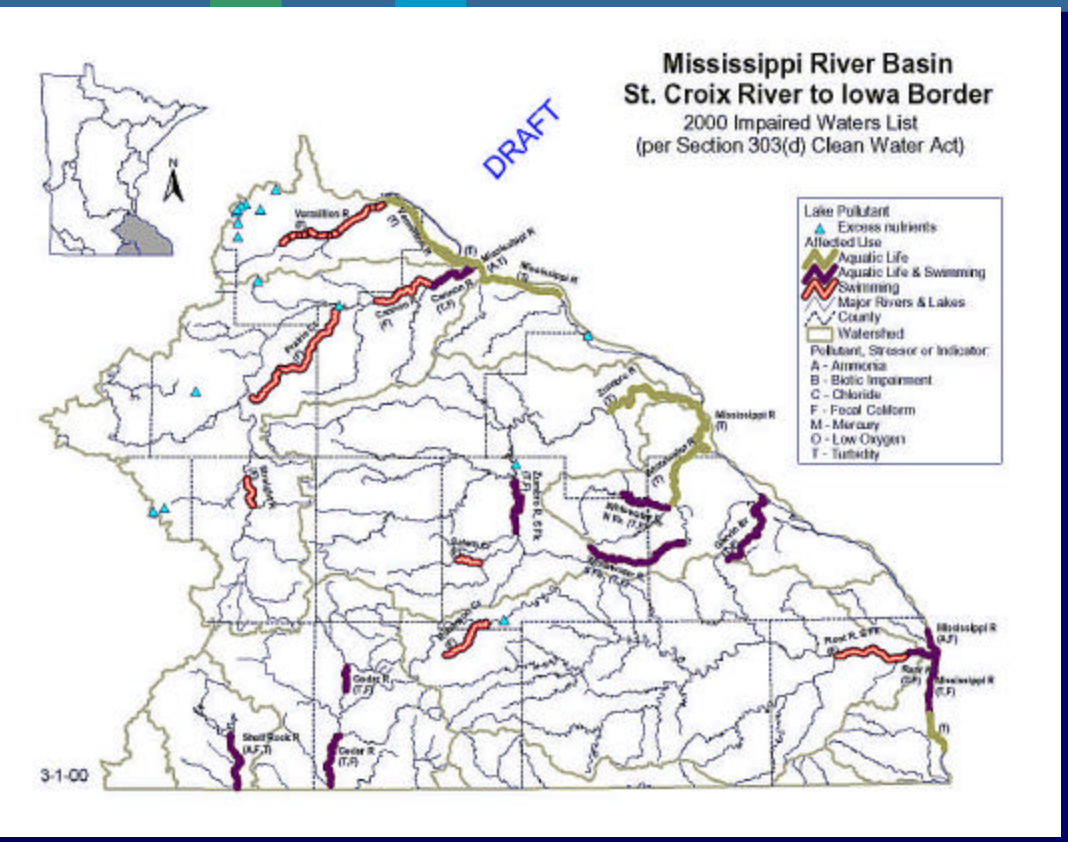
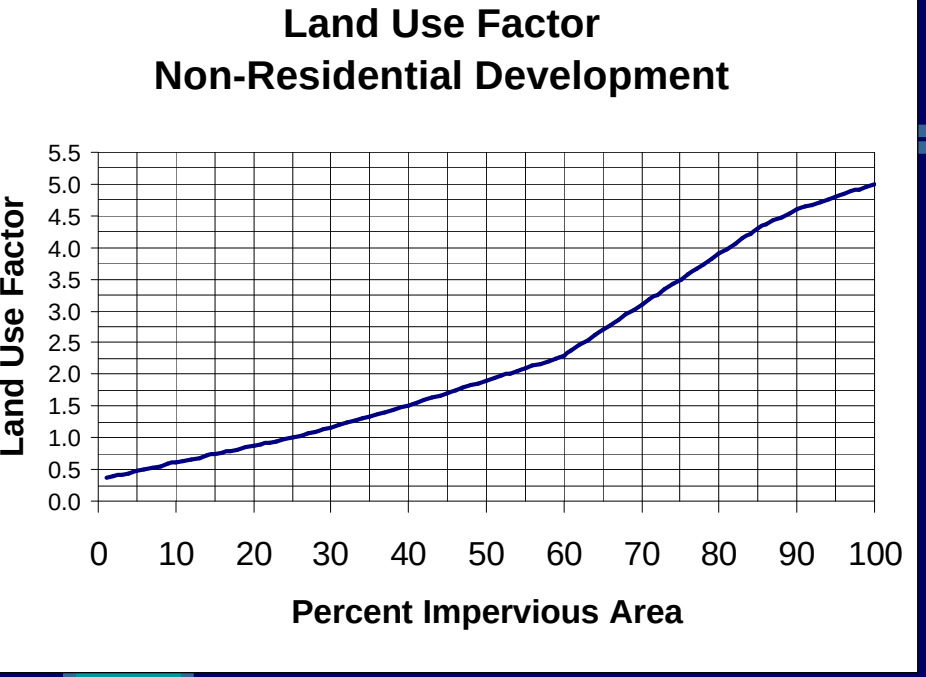
# Impervious Area (con't)




- Rochester has > 25% impervious cover… an indication that our streams do not adequately support aquatic life.
- MPCA classifies part of the South Fork of the Zumbro River in Rochester as being "impaired" for aquatic life and swimming.

NOTE: In addition to Rochester, there are other pollutant sources from the South Zumbro River Watershed that also contribute to this impairment.




- As the %IA increases, run-off rates, volumes, and pollutant loads also increase.
- The LUF relates %IA, land use type, and density of land use.

- The %IA will be used to derive a LUF for each parcel using the City's SWMP so that fees are based on the parcel's likely proportional contribution to flow and pollutant loads.
- The greater the %IA, the higher the LUF & the associated fee.

Therefore, the SWU rate will be related to the amount of impervious surface present on each developed parcel.

# Billing

- The SWUF will appear as a new line item on RPU's monthly bill.
- Combined utility billing results in a cost of $0.78 /customer/month.
- RPU will follow existing procedures for issuing bills to property owners and collecting revenues.
- It will be the property owner's obligation to recoup these costs from tenants.

# Fee Calculation $$$$

- There will be two categories of customers: residential and non-residential.
- Fees for both categories will be calculated using the same equation and unit rate.

SWUF = (LUF )(parcel size)(storm water unit rate)

# Residential Fee Calculation

- Residential properties are single-family homes or duplexes.
- A representative sample of residential parcels was selected to calculate the %IA of each parcel using aerial photography and GIS technology.
- The average size of residential parcels was ~0.235 acres with an average %IA of ~35%, slightly less than the NRCS published value of 38% IA per 1/4 acre residential parcel.
- A LUF of 1.0 has been assigned to all residential parcels based on this information.

(con't)

# Residential Fee Calculation (con't)

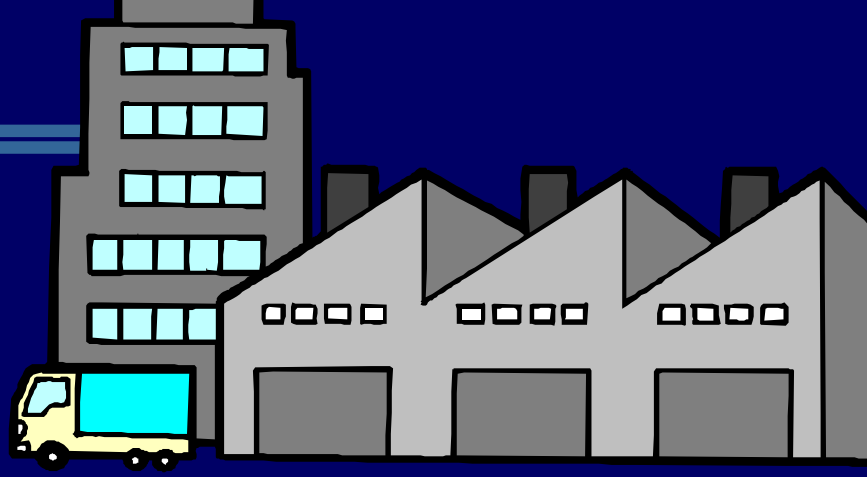
**Residential SWUF** =

(LUF)(parcel size)(storm water unit rate) =

(1.0)(0.235acres)($15.96/acre/month) =

**$3.75/month**

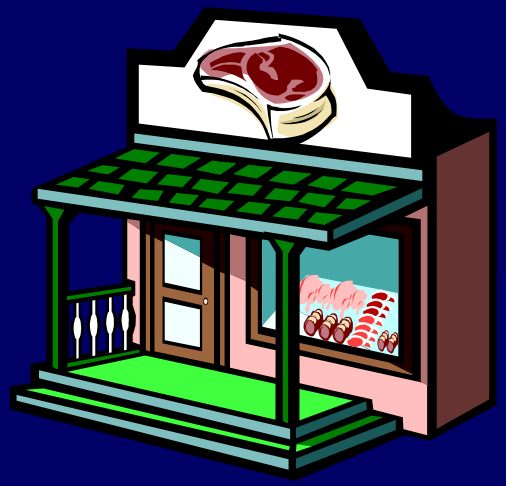
# Non-Residential Fee Calculation



- The variability in the %IA between non-residential parcels varies dramatically.
- The specific amount of %IA was digitally measured and computed for each of the nearly 3,500 non-residential parcels.
- With a %IA calculated, the LUF for each of the non-residential parcels can be extrapolated from the SWMP LUF chart.
- The variability of LUFs and parcel sizes results in a wide range of non-residential charges.

(con't)

# Non-Residential Fee Example Calculations



- #1 Joe's BBQ:

  95% IA with LUF = 4.9 & 0.6 acre parcel

- SWUF =

  (4.9)(0.6 acres)($15.96/acre/month) = $46.92/month



(con't)

# Non-Residential Fee Example Calculations

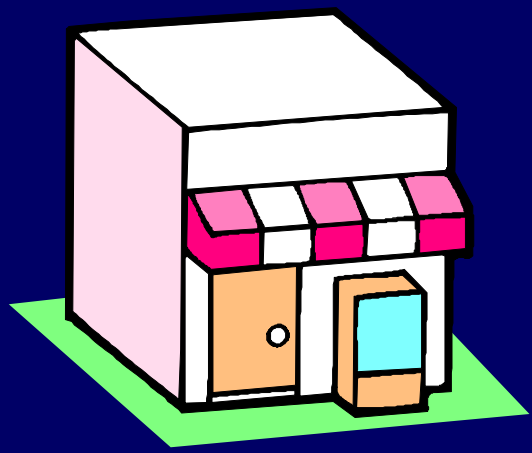
- #2 Daisy's RV's:
  52% IA with LUF =1.9 & 5.3 acre parcel

- SWUF =
  (1.9)(5.3 acres)($15.96/acre/month) = $160.71/month



(con't)

# Non-Residential Fee Example Calculations



- #3 Bullseye Discount Store:

  77% IA with LUF =3.66 & 12.7 ac. parcel

- SWUF =

  (3.66)(12.7 acres)($15.96/acre/month) = $741.85/month

# Storm Water Utility Fee (SWUF)

SWUF = (LUF )(parcel size)(storm water unit rate)

- Storm Water Unit Rate is dependent on:
  - Fee Calculation Methodology
  - Budget
  - Credits
  - Exemptions

# Exemptions

- **It is critical to remember that ALL developed property, regardless of ownership, contributes to storm water drainage system demand due to increased run-off volumes and degraded water quality.**

(con't)

# Exemptions (con't)

- There is technical justification for charging all developed properties and not allowing any exemptions.
- Decisions regarding which properties to exempt must use other, rational criteria and cannot compromise the equitable standard of the utility.

# Recommended Exemptions

- **Undeveloped parcels**
- **Public streets, roads, highways and their rights-of-way** (city, county, state, and federal)
- **Railroad right-of-way**
- **City lands**

# Proposed Budget Scope

- The NPDES Phase II permit scope of work does not represent a "Cadillac approach" to compliance
- The budget reflects a reasonable level of effort to reach permit compliance and achieve the City's SWMP goals.
- An evaluation of prior SWM expenditures to provide the current level of was conducted to develop the budget.

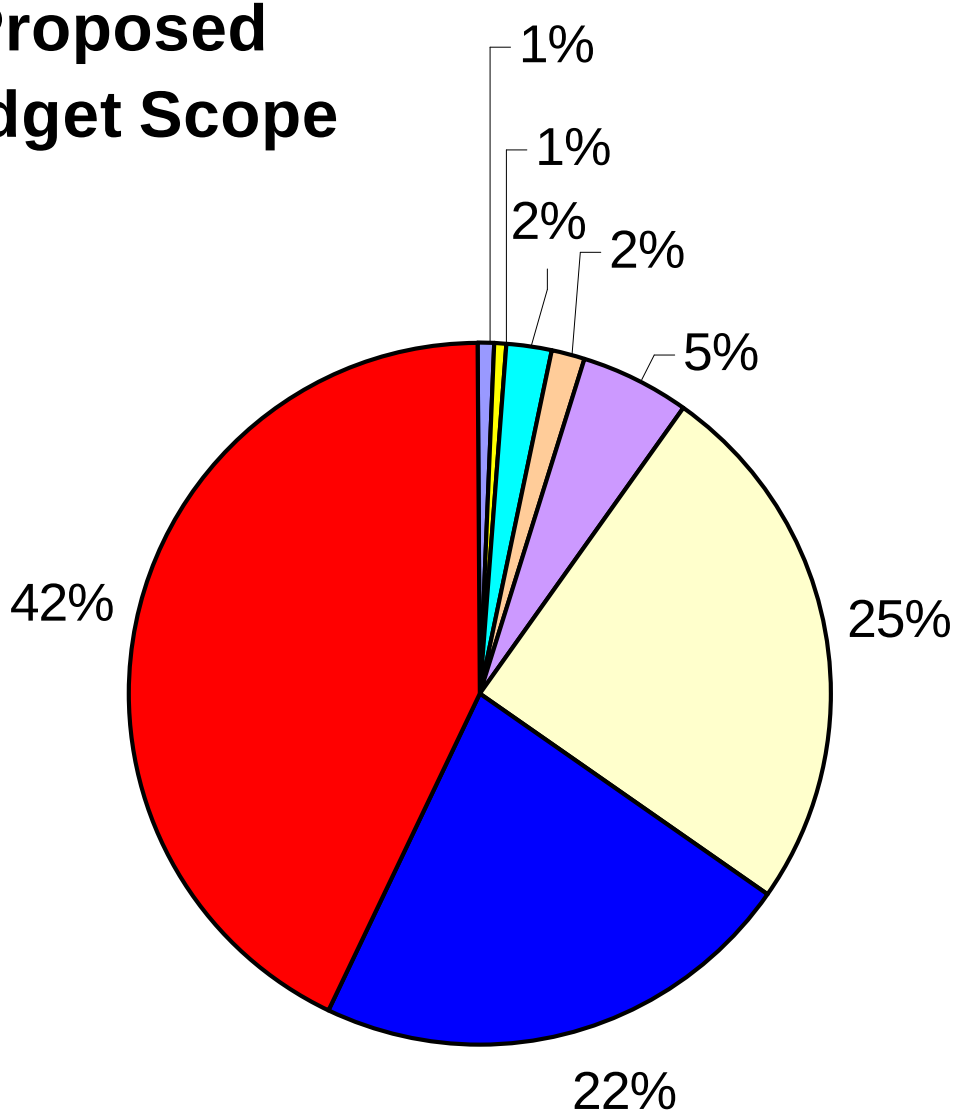
(con't)

# Proposed Budget Scope (con't)

- The estimated annual cost to implement these activities is nearly $3,500,000 (excluding storm sewers installed with road projects and flood control project maintenance).
- The proposed budget is comprised of three primary categories:
  - Activities to meet the Minimum Control Measures (MCMs) required under the Phase II permit ($1,230,000),
  - Capital improvements ($1,500,000), and
  - Program management ($780,000).

(con't)

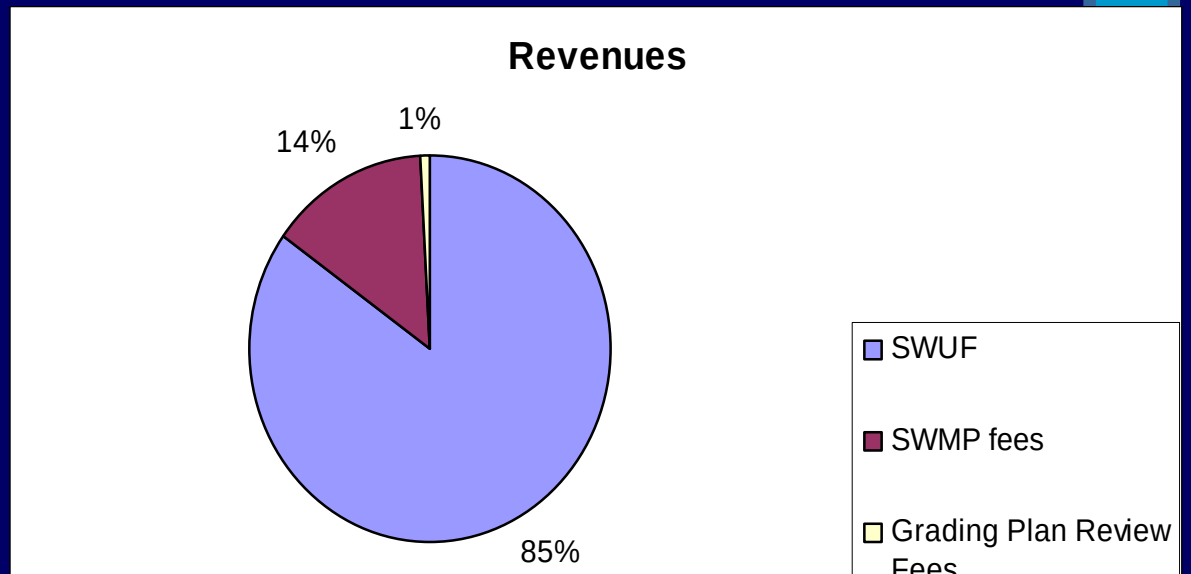
# Proposed Budget Scope




- MCM #1 Public Education
- MCM #2 Public Participation
- MCM #3 Illicit Discharges
- MCM #4 Construction ESC
- MCM #5 Post Construction ESC
- MCM #6 Good Housekeeping
- Program Management
- CIP

# Proposed Budget Scope (con't)

- Revenues will come from:
  - Storm water utility monthly charges
  - Storm water management plan (SWMP) charges
  - Grading plan permit fees
  - Grants



# Program Benefits

- Phase II Permit Compliance
- Increased awareness of storm water issues
- Improved erosion and sediment control
- Reduced backlog of CIP to manage run-off
- Better system maintenance
- More effective post-construction storm drainage
- Fewer illicit discharges
- Better material storage and controlled chemical use
- Improved water quality and aquatic habitat

# Priorities

- Public education and participation
- Outfall mapping
- Routine pond and outfall inspections and maintenance
- Inspection of construction sites greater than one acre for proper erosion control
- Illicit discharge detection and elimination
- Update storm water ordinances, including development of an ordinance to address illicit discharges

(con't)

# Priorities (con't)

- Enforcement of storm water management ordinances
- Construction of water quality and quantity control structures
- Improved materials management (more efficient use, storage, processing and disposal of materials that could enter our waterways)
- Reduction in the backlog of maintenance and infrastructure construction needs

(con't)

# Priorities (con't)

- Construction of regional ponds to serve recently developed areas for which financial contributions have already been made
- Improvement of stream bank stability on highly eroded drainage ways
- Transition to open space greenways and a regional pond system, as proposed for the Northwest Territories area

# REMEMBER…

- The storm water utility is one "tool" that will help finance the most critical community storm water management needs.
- It is not a "cure-all" that will solve **all** storm water management problems.
- It can't provide **immediate** resolution of even the priority drainage issues.

# Phase II Will Be A "Learning by Doing" Experience

# Pending Issues

- Appeals process for non-residential customers who dispute their charges
- Credit eligibility criteria and process for non-residential property owners who provide cost-avoidance benefits
- Several billing issues
- Quality assurance plan to insure database accuracy
- Standard operating procedures
- Storm Water Utility Ordinance
- Monthly customer database update process

# Council Direction Needed

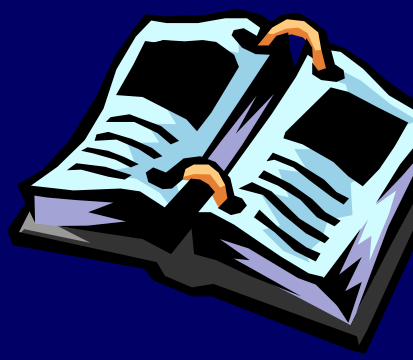
- Phase II permit goals
- Residential rate determination
- Non-residential rate determination
- Storm water unit rate
- July 2003 implementation date
- Property exemptions
- Appeals and credit process
- Outreach plan

# Consequences

- If the SWU is not adopted, the City will be unable to:
  - Address its backlog of storm water management needs,
  - Fully implement it storm water management plan, or
  - Comply with all its permit requirements.
- If the SWU is adopted, as proposed, the City will be able to:
  - Meet its new permit obligations,
  - Meet its storm water management goals, and
  - Rely on a dedicated, stable, and equitable funding source.

# Proposed SWU Schedule

| | |
|---|---|
| COW – SWU introduction | 2/24/03 |
| Web sites postings | 3/3/03 |
| Introductory letter | 3/303 |
| Introductory bill stuffer | April RPU bills |
| Mtgs. with top ratepayers | March-April |
| COW – finalize SWU | 4/14/03 |
| Public info meeting | mid-late April |
| Group presentations | mid-late April |
| COW – SWPPP review | 4/28/03 |
| Council Mtg – adopt SWU | 5/5/03 |
| Expanded web postings | 5/9/03 |
| Continued public ed. | May and June |
| Implementation | July |



# THE END

# Parcel Issues

- Contiguous non-residential parcels with the same owner will have the individual parcel charges aggregated into one fee.
- The aggregate fee will be associated with a customer service number that will be tied to the individual parcel data (contact RPU for parcel-by-parcel charges).
- If one %IA is desired for all adjacent holdings, property owners would need to do an “assemblage”, obtain a new property description, record it on their property deed.

# Recommended as Not Exempt

- **Developments with private infrastructure ownership** (e.g., roads, storm sewers or ponds)
- **Organizations exempt from paying property taxes** (e.g., churches, cemetery associations, private schools, the Mayo Foundation, religious and charitable organizations, etc.)

(con't)

# Recommended as Not Exempt (con't)

- **Federal** (e.g., FMC)
- **State** (e.g., RCTC, University Center Rochester, MnDOT, DNR, MPCA, etc.)
- **County** (e.g., fair grounds, Government Center, Law Enforcement Center, old state hospital campus buildings, etc.)
- **Public schools**

# SWMP History (con't)

- The 1995 SWMP process was guided by a 35-member Steering Committee comprised of business, residential, and government representatives.
- They listed 16 recommendations, including: "The City adopt a stormwater utility to finance the operation and maintenance of the drainage system."
  - This recommendation was based on a commitment that the Public Works Department's annual General Fund supported budget would be reduced by $1,000,000.